

# SPECIFICATIONS

## HL960

Tier 4 Final Engine



\*Photo may include optional equipment.

**Net Power**

222 HP (166 kW) / 2,200 rpm

**Operating Weight**

19,425 kg / 42,825 lb

**Standard Bucket**

3.3 m<sup>3</sup> / 4.3 yd<sup>3</sup>

 **HYUNDAI**  
CONSTRUCTION EQUIPMENT

# SPECIFICATIONS HL960

ENGINE	
Make/model	CUMMINS / QSB6.7
Type	Watercooled, 4-cycle, turbocharged air-cooled, direct injection, electronically controlled diesel engine
Gross power	225 HP (168 kW) / 2,200 rpm
Net power	222 HP (166 kW) / 2,200 rpm
Maximum torque	106 kg·m (770 lb-ft) / 1,500 rpm
No. of cylinders	6
Bore x stroke	107 mm (4.21") x 124 mm (4.88")
Displacement	6.7 l (408 in <sup>3</sup> )
Compression ratio	17.3 : 1
Air cleaner	Dry, 2-stage dual elements
Alternator	24 V – 95 Amp
Battery	2 x 12 V – 160 Ah, 900 CCA
Starting motor	24 V - 7.8 kW

TRANSMISSION	
Torque converter type	3-element, single-stage, single-phase

\* Fully automatic power shift, countershaft type with soft-shift in range and direction.

Travel speed, km/h (mph)	4 speed T/M		5 speed T/M with lockup clutch	
	1st	2nd	3rd	4th
Forward	1st	6.4 (4.0)	6.7 (4.2)	6.7 (4.2)
	2nd	12.1 (7.5)	11.8 (7.3)	11.8 (7.3)
	3rd	24.3 (15.1)	18.1 (11.2)	18.1 (11.2)
	4th	39.5 (24.5)	28.2 (17.5)	28.2 (17.5)
Reverse	5th	40.0 (24.9)	40.0 (24.9)	40.0 (24.9)
	1st	6.7 (4.2)	7.1 (4.4)	7.1 (4.4)
	2nd	12.7 (7.9)	12.4 (7.7)	12.4 (7.7)
	3rd	25.6 (15.9)	29.4 (18.5)	29.4 (18.5)

AXLES	
Drive system	Four-wheel drive system
Mount	Rigid front axle and oscillating rear axle
Rear axle oscillation	±11° center pin-loaded
Hub reduction	Planetary reduction at wheel end
Differential	Hyd Lock (front) / Conventional (rear)
Reduction ratio	24.666

OVERVIEW				
Description	UNIT	HL960	HL960XT	
Operating weight	kg (lb)	19,425 (42,825)	19,600 (43,211)	
Bucket capacity	Heaped	m <sup>3</sup> (yd <sup>3</sup> )	3.3 (4.3)	3.3 (4.3)
	Struck	m <sup>3</sup> (yd <sup>3</sup> )	2.9 (3.8)	2.9 (3.8)
Breakout force–bucket	kg (lb)	16,670 (35,160)	16,430 (34,500)	
Tipping load	Straight	kg (lb)	15,580 (34,348)	12,700 (27,999)
		kg (lb)	13,630 (30,049)	10,900 (24,030)
	Full turn	kg (lb)	13,630 (30,049)	10,900 (24,030)

TIRES	
Type	Tubeless, loader design tires
Standard	23.5 R25, L3
Options include	23.5-25, 20 PR, L3
	23.5-25, 20 PR, L5
	23.5, R25 XHA2, L3
	20.5-25, 16PR, L3

HYDRAULIC SYSTEM	
Type	Load-sensing hydraulic system
Pump	Variable-displacement piston pump, 246 l/min (65 gpm)
Control valve	2-spool (bucket, boom) 3-spool (bucket, boom, aux)
System pressure	280 kgf/cm <sup>2</sup> (3,983 psi)
Lift circuit	Valve has four functions: raise, hold, lower and float Can adjust automatic kick-out from horizontal to full lift
Tilt circuit	Valve has three functions: tilt back, hold and dump Can adjust automatic bucket positioner to desired load angle
Cylinder	HL960 HL960XT Type: Double acting No. of cylinders–bore x stroke: Lift: 2-140 mm (5.5") x 765 mm (30.1") Tilt: 1-160 mm (6.3") x 530 mm (20.9")
Cycle times	Raise: 5.9 sec Dump: 1.3 sec Lower: 3.1 sec Total: 10.3 sec

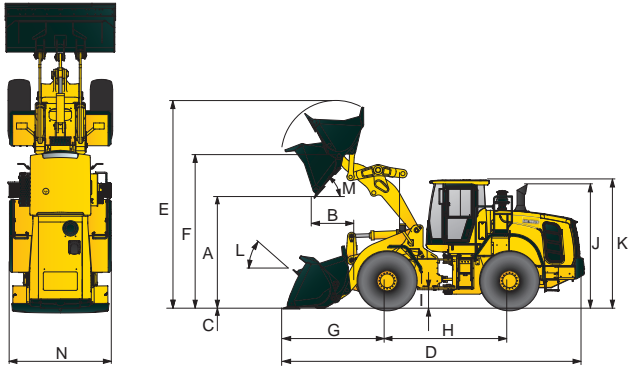
BRAKES	
Service brakes	Hydraulically actuated, wet-disc brakes actuate all 4 wheels Independent axle-by-axle system Self-adjusting and wheel speed brake
Parking brake	Spring-applied, hydraulically released brake
Emergency brake	When brake oil pressure drops, indicator light alerts operator, and parking brake automatically applies

STEERING SYSTEM	
Type	Load-sensing hydrostatic articulated steering
Pump	Variable-displacement piston pump, 120 l/min (32 gpm)
Relief valve setting	250 kgf/cm <sup>2</sup> (3,556 psi)
Cylinder	Double acting 2-75 mm (2.9") x 424 mm (16.7")
Steering angle	40° both right and left angle, respectively
Additional features	Center-point frame articulation Tilt and telescopic steering column

SERVICE REFILL CAPACITIES	
Fuel tank	300 l (79.3 gal)
DEF tank	27 l (7.1 gal)
Cooling system	42 l (11.1 gal)
Crankcase	18 l (4.8 gal)
Transmission	33 l (8.7 gal)
Front axle	35 l (9.2 gal)
Rear axle	35 l (9.2 gal)
Hydraulic tank	110 l (29.1 gal)
Hydraulic system (including tank)	200 l (52.8 gal)

## DIMENSIONS

All dimensions are approximate.



Description	UNIT	HL960	HL960XT
Bucket type		General purpose bolt-on cutting edge	
A. Dumping clearance at max. height and 45° dump angle	mm (ft-in)	2,935 (9' 7.5")	3,365 (11' 0.5")
B. Reach	Full lift	mm (ft-in)	1,295 (4' 3.0")
	2,134 mm height (7 feet)	mm (ft-in)	1,825 (5' 11.9")
C. Digging depth	mm (in)	90 (3.5")	145 (5.7")
D. Overall length	on ground	mm (ft-in)	8,140 (26' 8.5")
	at carry	mm (ft-in)	8,030 (26' 4.1")

Description	UNIT	HL960	HL960XT
E. Overall height (fully raised)	mm (ft-in)	5,640 (18' 6.0")	6,070 (19' 11.0")
F. Bucket pivot height (max)	mm (ft-in)	4,105 (13' 5.6")	4,535 (14' 10.5")
G. Front overhang	mm (ft-in)	2,810 (9' 2.6")	3,275 (10' 8.9")
H. Wheelbase	mm (ft-in)	3,300 (10' 9.9")	3,300 (10' 9.9")
I. Ground clearance	mm (ft-in)	410 (1' 4.1")	410 (1' 4.1")
J. Height over exhaust	mm (ft-in)	3,360 (11' 0.3")	3,360 (11' 0.3")
K. Height over cab	mm (ft-in)	3,450 (11' 3.8")	3,450 (11' 3.8")
L. Rollback angle	on ground	deg	42
	at carry	deg	47
M. Dump angle	deg	50	50
Clearance circle, over bucket (carry position)	mm (ft)	13,150 (43.14)	13,600 (44.62)
	mm (ft)	11,836 (38.83)	11,836 (38.83)
Clearance circle, outside of tires	mm (ft)	6,368 (20.89)	6,368 (20.89)
	mm (ft)	6,368 (20.89)	6,368 (20.89)
N. Overall width	with bucket	mm (ft-in)	2,900 (9' 6.2")
	without bucket	mm (ft-in)	2,770 (9' 1.1")
	without bucket	mm (ft-in)	2,900 (9' 6.2")

## HL960 / DENSITY OF OPERATING MATERIALS

Loose material	Material Density
Earth/clay	1.5~1.7 tons / m <sup>3</sup> (2,528~2,865 lb / yd <sup>3</sup> )
Sand and gravel	1.5~1.7 tons / m <sup>3</sup> (2,528~2,865 lb / yd <sup>3</sup> )
Aggregate	25~76 mm (1" to 3")
	19 mm (3/4") and larger

## HL960 / DENSITY OF OPERATING MATERIALS

Lift arm	Bucket	Type	m <sup>3</sup> (yd <sup>3</sup> )	Material Density [t/m <sup>3</sup> ] (lb/yd <sup>3</sup> )											
				1.0 (1,686)	1.1 (1,854)	1.2 (2,023)	1.3 (2,191)	1.4 (2,360)	1.5 (2,528)	1.6 (2,697)	1.7 (2,865)	1.8 (3,034)	1.9 (3,203)	2.0 (3,371)	2.1 (3,540)
Standard lift-arm	General Purpose	Cutting edge	3.3 (4.3)	3.8 m <sup>3</sup> (5.0 yd <sup>3</sup> )											
		Cutting edge	3.5 (4.5)	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )											
		1-piece bolt-on tooth	3.2 (4.2)	3.7 m <sup>3</sup> (4.8 yd <sup>3</sup> )											
		1-piece bolt-on tooth	3.4 (4.4)	3.9 m <sup>3</sup> (5.1 yd <sup>3</sup> )											
		2-piece bolt-on tooth	3.2 (4.2)	3.7 m <sup>3</sup> (4.8 yd <sup>3</sup> )											
		2-piece bolt-on tooth	3.4 (4.4)	3.9 m <sup>3</sup> (5.1 yd <sup>3</sup> )											
		2-piece bolt-on tooth and segment edge	3.3 (4.3)	3.8 m <sup>3</sup> (5.0 yd <sup>3</sup> )											
		2-piece bolt-on tooth and segment edge	3.5 (4.5)	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )											
High-lift arm (XT)	General Purpose	Cutting edge	3.3 (4.3)	3.8 m <sup>3</sup> (5.0 yd <sup>3</sup> )											
		Cutting edge	3.5 (4.5)	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )											
		1-piece bolt-on tooth	3.2 (4.2)	3.7 m <sup>3</sup> (4.8 yd <sup>3</sup> )											
		1-piece bolt-on tooth	3.4 (4.4)	3.9 m <sup>3</sup> (5.1 yd <sup>3</sup> )											
		2-piece bolt-on tooth	3.2 (4.2)	3.7 m <sup>3</sup> (4.8 yd <sup>3</sup> )											
		2-piece bolt-on tooth	3.4 (4.4)	3.9 m <sup>3</sup> (5.1 yd <sup>3</sup> )											
		2-piece bolt-on tooth and segment edge	3.3 (4.3)	3.8 m <sup>3</sup> (5.0 yd <sup>3</sup> )											
		2-piece bolt-on tooth and segment edge	3.5 (4.5)	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )											

CAB & INTERIOR	STD	OPT
Alternator, 95 Amp	•	
<b>Alarms, audible and visual</b>		
Air filter clogging	•	
Transmission error	•	
Battery voltage	•	
Brake oil pressure	•	
Engine oil pressure	•	
Parking brake	•	
Fuel level	•	
Hydraulic oil temperature	•	
Coolant temperature	•	
Transmission oil temperature	•	
Service brake oil pressure	•	
Coolant level	•	
Water in fuel	•	
<b>Alarm, backup</b>	•	
<b>Batteries, PT</b>		
900 CCA, 12V, (2)	•	
<b>Gauges</b>		
Engine coolant temperature	•	
Fuel level	•	
Speedometer	•	
Transmission oil temperature	•	
<b>Horn, electric</b>	•	
<b>Indicator lights</b>		
T/C lockup	•	
High beam	•	
Turn signal	•	
FNR joystick steering		•
Pilot cutoff	•	
<b>LCD display</b>		
Clock and fault code	•	
Operating hour counter	•	
Engine rpm	•	
Transmission gear range	•	
Indicator	•	
Job time and distance	•	
Temperature (coolant, hydraulic oil, t/m oil)	•	
<b>Lighting system</b>		
LED dome light	•	
2 stop and taillights	•	
4 turn signals	•	
Brake lights (counterweight)	•	
2 headlights on front tower	•	
2 working lights on front roof	•	
4 working lights on front roof, 2 working lights on rear roof		•
4 working lights (2 xenon) on front roof, 2 working lights on rear roof		•
4 working lights (LED) on front roof, 2 working lights (LED) on rear roof		•
2 working lights on grille	•	
<b>Switches</b>		
Hazard	•	
Ignition	•	
Parking	•	
Battery master switch	•	
FNR	•	
Diff lock	•	
SCR cleaning / inhibit	•	
Secondary steering test		•
Pilot cutoff	•	
<b>Integrated monitor switches</b>		
Main light switch	•	
Work light switch	•	
Auto grease switch	•	
Quick coupler switch	•	
Ride control switch	•	
Work load switch	•	
Beacon lamp switch	•	
Rear wiper switch	•	
Mirror heat switch	•	
Auto position switch	•	
Fine modulation switch	•	

CAB & INTERIOR	STD	OPT
<b>Cab (sound suppressed and pressurized) with</b>		
Cigar lighter and ashtray	•	
Coat hook	•	
<b>Automatic climate control</b>		
Air conditioner and heater	•	
Defroster	•	
Intermittent wiper and washer, front and rear	•	
<b>Seat</b>		
3" retractable seat belt and adjustable air suspension (heated)	•	
<b>Personal storage space</b>		
Console box	•	
Holder, can and cup	•	
Rearview mirrors (1 inside)	•	
Rearview mirrors (2 outside)	•	
Rearview mirrors (2 outside, heated)	•	
Steering column, tilt and telescopic	•	
Steering wheel with knob	•	
Roller type sunshade (front window)	•	
Roller type sunshade (rear window)		•
Tinted safety glass	•	
One door cab	•	
Magazine pocket	•	
<b>Pedals</b>		
One accelerator pedal	•	
One brake pedal	•	
Dual-brake pedal		•
Radio / USB player	•	
Bluetooth	•	
Miracast	•	
Rubber floor mat	•	
Armrest	•	
24-volt to 12-volt DC converter (20A)	•	

ENGINE	STD	OPT
<b>Engine, Cummins QSB6.7</b>		
Tier 4 Final / Stage 4	•	
Engine enclosure, lockable	•	
Engine fuel priming pump	•	
Fan guard	•	
Reversible cooling fan	•	
Fuel/water separator	•	
Antifreeze	•	
<b>Clean emission module</b>		
DOC and SCR	•	
Radiator	•	
Starting aid (air intake heater)	•	
Fuel heater	•	
Coolant-level sight gauge	•	
Engine oil-level dipstick gauge	•	
Fuel heater (dual)		•
Air cleaner with auto dust eject	•	
3-stage air precleaner	•	

POWER TRAIN	STD	OPT
<b>Brakes: service, enclosed wet-disc</b>		
Parking brake	•	
Torque converter	•	
Transmission F4 / R3, computer- controlled, electronic soft-shift, auto-shift and kick-down features	•	
Transmission F5 / R3 with lockup clutch		•
Transmission oil sight level	•	
Limited-slip differential (front, rear)		•
Transmission oil cooler	•	
Transmission oil cooler with thermostat		•
Hydraulic lock differential (front) / Conventional differential (rear)	•	
Front axle cooling system		•
Hydraulic lock differential (front) / Limited-slip differential (rear)		•

POWER TRAIN	STD	OPT
<b>Tires</b>		
23.5 R25, L3	•	
23.5 - 25, 20PR, L3		•
23.5 - 25, 20PR, L5		•
23.5 R25, XHA2, L3		•
20.5-25, 16PR, L3		•
Travel speed limiter (20-40 km/h)	•	

HYDRAULIC SYSTEM	STD	OPT
<b>Boom kick-out, automatic</b>	•	
<b>Bucket positioner, automatic</b>	•	
<b>Diagnostic pressure taps</b>	•	
<b>Hydraulic oil cooler</b>	•	
<b>Hydraulic control, 3 spool</b>	•	
<b>Joystick control (EH control)</b>	•	
<b>Lever control—single axis (EH control)</b>		•
<b>Joystick steering</b>		•
<b>Ride control system</b>	•	
<b>Secondary steering system</b>		•
<b>Extra piping for auxiliary function</b>		•
<b>Quick coupler piping</b>	•	
<b>Auto grease system</b>		•

OTHER	STD	OPT
<b>Articulation locking bar</b>	•	
<b>Counterweight</b>	•	
<b>Additional counterweight</b>		•
<b>Door and cab locks, one key</b>	•	
<b>Doors, service access (locking)</b>	•	
<b>Drawbar with pin</b>	•	
<b>Ergonomically located and slip resistant, left &amp; right</b>	•	
Handrails	•	
Ladders	•	
Platforms	•	
Steps	•	
Hydraulic oil level sight gauge	•	
Lift and tie-down hooks	•	
Loader linkage, sealed	•	
Z-bar design	•	
Vandalism protection caplocks	•	
<b>Toolkit</b>		•
Tooth, 1 piece, bolt-on type		•
Tooth, 2 pieces, bolt-on type		•
Cutting edge, bolt-on type		•
Pallet forks		•
<b>Guards</b>		
Crankcase		•
Transmission		•
Half fenders front and rear	•	
Full rear fenders		•
<b>Wheel chock</b>		•
<b>License plate &amp; lamp</b>		•
<b>Hi-Mate remote management system</b>		
Mobile	•	
Satellite		•

SAFETY	STD	OPT
<b>Beacon light, rotating</b>		•
<b>Fire extinguisher</b>		•
<b>Operator suit</b>		•
<b>Rearview camera</b>	•	

- \* Standard and optional equipment may vary. Contact your Hyundai dealer for more information. The machine may vary according to International standards.
- \* The photos may include attachments and optional equipment that are not available in your area.
- \* Materials and specifications are subject to change without advance notice.
- \* All imperial measurements rounded off to the nearest pound or inch.



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